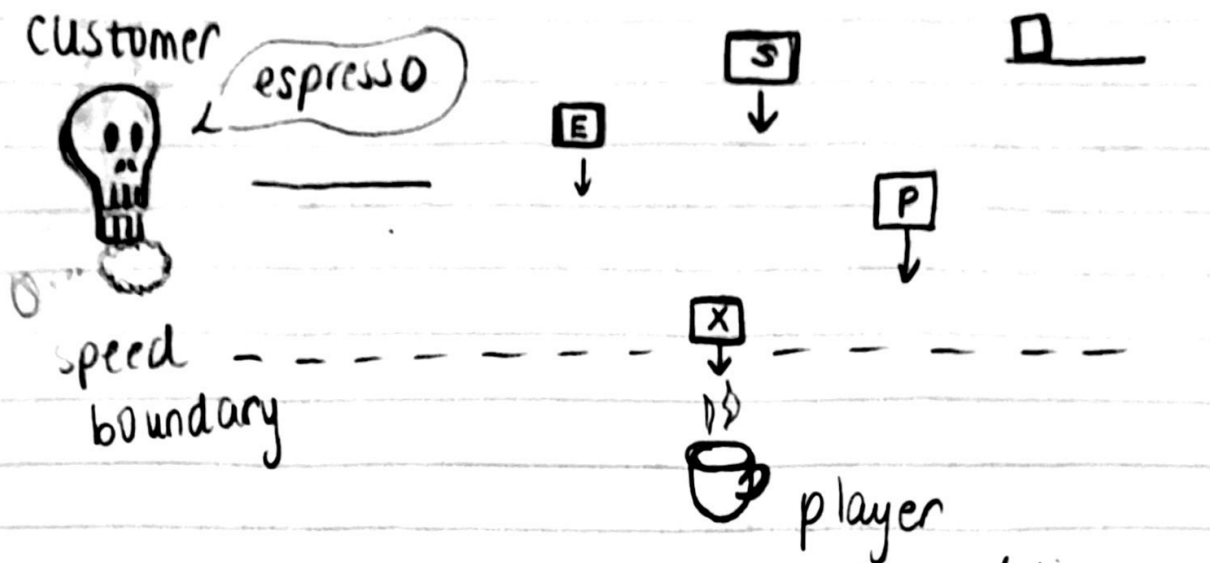
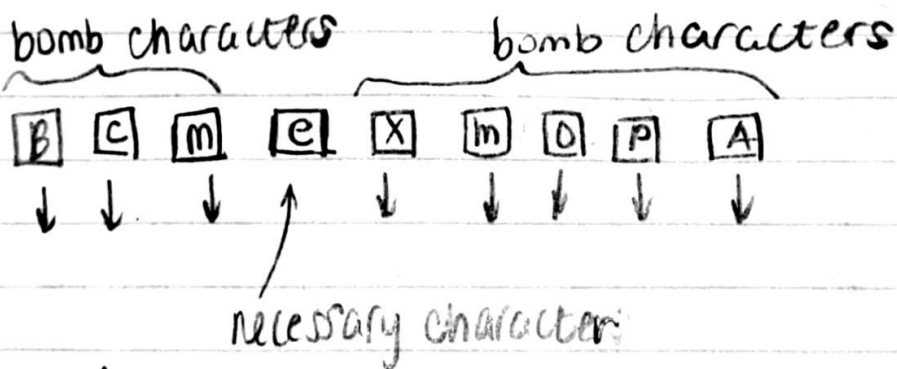


Word Blast 2D Concept - Barista Blast



game play loop :

- word request → start to release word
- > random additional letters fall simultaneously
- > throw in bomb waves
- + throw in clear chars



speed Bonus calculation : track two times :

if playerspeed < speedTimer :
BONUS points

time from first letter release until the last letter crosses the speed boundary

time from first letter release to last letter hit by player




3
3.5
4
4.5

5

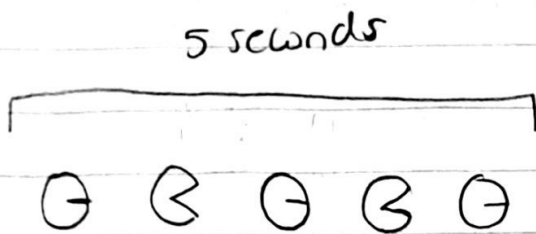
$$t = \frac{\Delta y}{v}$$

select RandomOrder()

set sprite  closed
timerTask = 0

update()

if timerTask < 5:
if timerTask

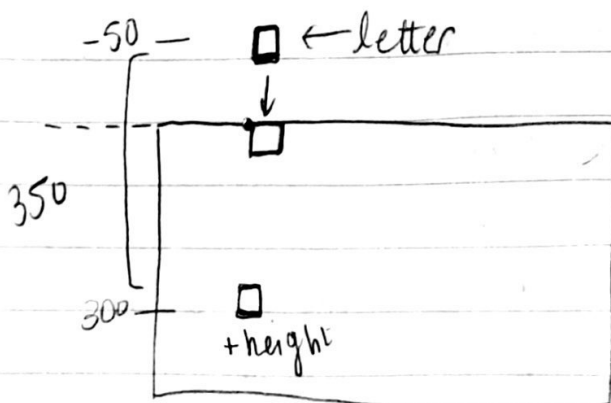


if timerTask < 5:
if < 1: close
if > 1 & < 2: open
if > 2 & < 3: close

MOCHA

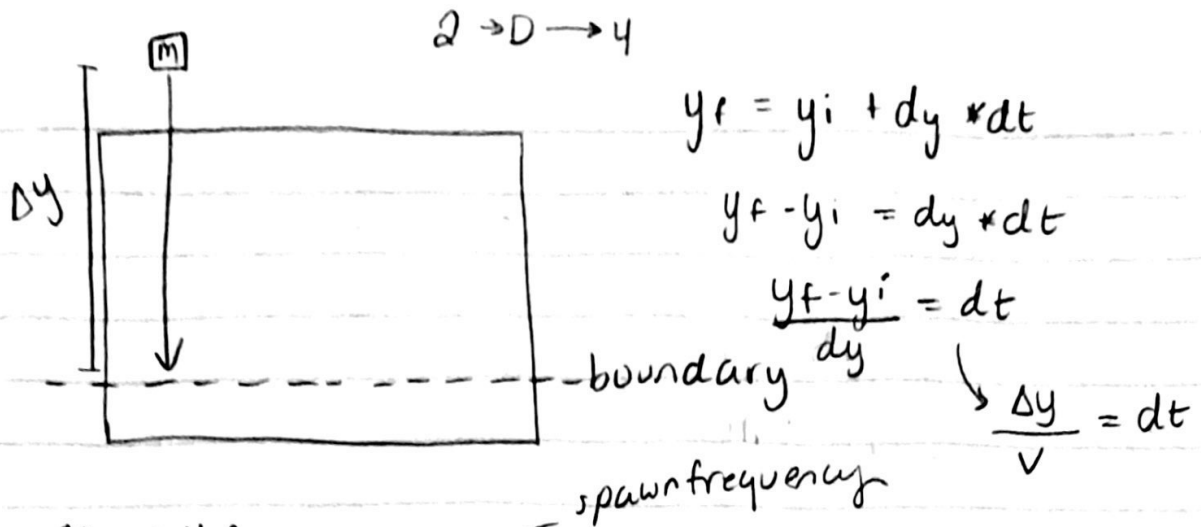
spawn letter to follow order ^{lowe} update

↳ if on first letter (firstTimeFirstLetter == True)



timer should start when this boundary gets crossed
(letter.y > 0)

$$\left(\frac{\text{max time between letters}}{5} \times \text{num letters} \right) + \left(\text{num letters} \times \frac{\text{time to end}}{\text{end}} \right)$$



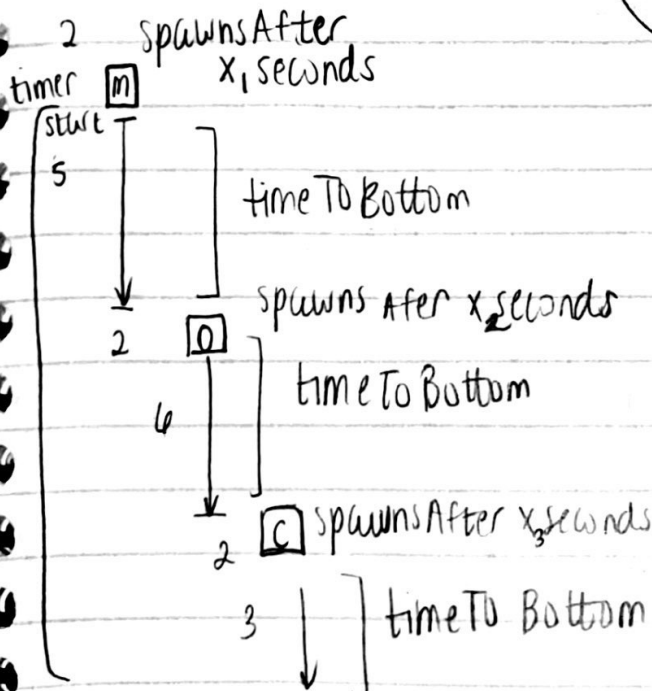
M O C H A
 M → spawnTime } each letter
 spawnPosition

(over)
 What is the estimated time to complete the word?

- Assumption: The "maximum" time it should take for a letter to be completed is:

the time it took the letter to spawn time to bottom
 time it takes for the letter to reach the timer boundary

= time to bottom + spawn Time

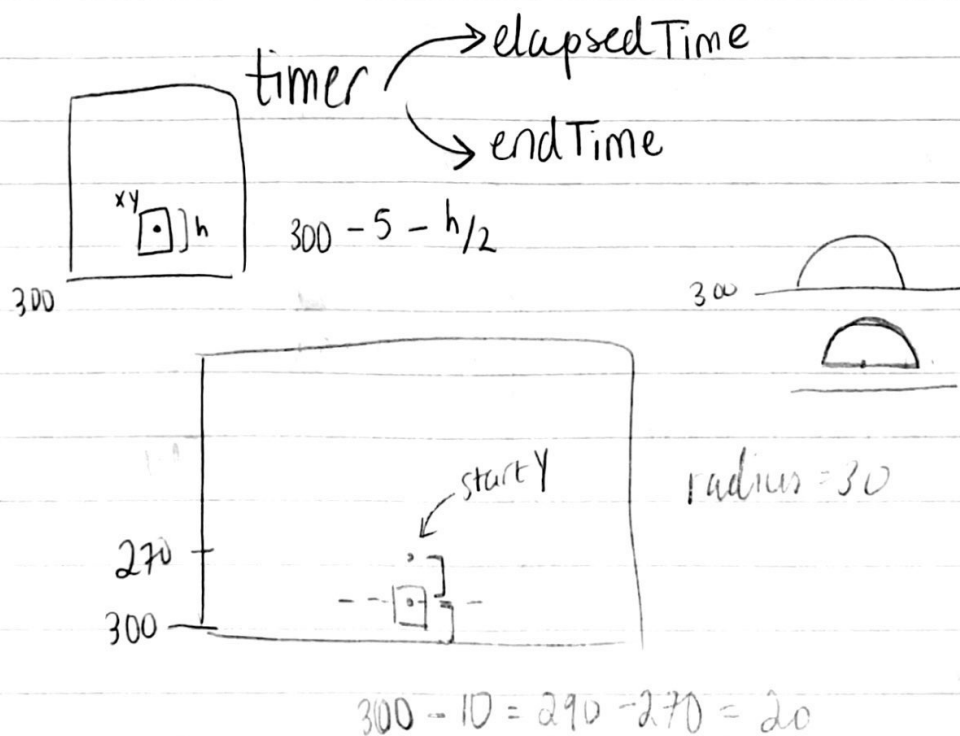
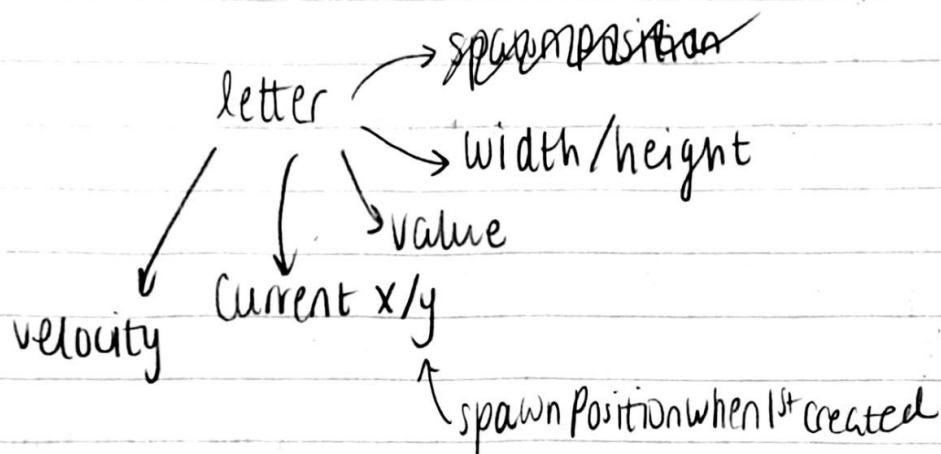
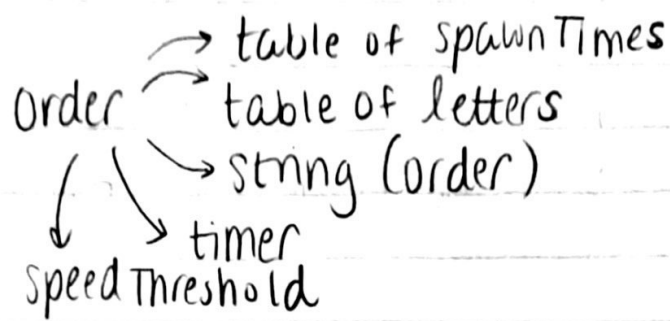


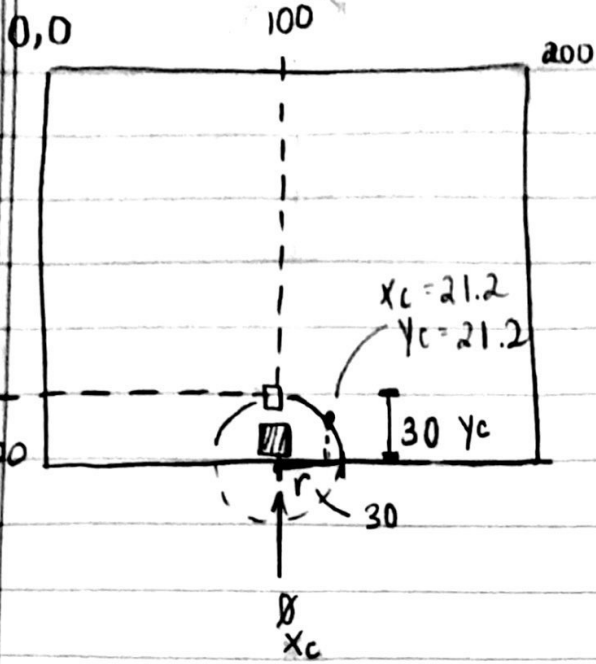
spawnFreq[letter]
 +
 timeToBottom[letter]
 aggregate sum across letters

20 sec - 2 = 19 ...

20
 19
 18
 17
 16
 15
 14
 13
 12
 11
 10
 9
 8
 7
 6
 5
 4
 3
 2
 1

class structures:





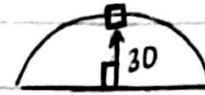
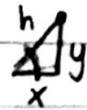
$$S_H^0 \quad C_H^A \quad T_A^0$$

$$\sin \theta = \frac{y}{h}$$

$$X = 100 + X_c$$

$$Y = 300 - Y_c$$

offset calc.

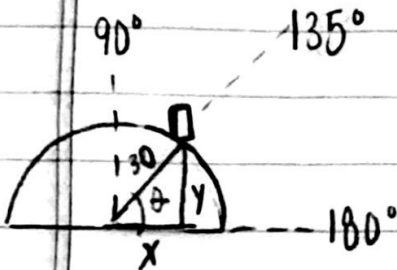


$$\theta = 90^\circ \quad h = 30$$

$$h = \frac{y}{\sin(\theta)}$$

$$\sin \theta = \frac{y}{h} \rightarrow y = h \sin \theta = 30 \sin(90^\circ)$$

$$y_c = 30(1) = \underline{\underline{30}}$$



$$x = 30 \sin(180 - 135)$$

$$= 30 \sin(45)$$

$$= 30(0.7071)$$

$$x_c = 21.213$$

$$\cos \theta = \frac{x}{h} \rightarrow x = h \cos \theta$$

$$= 30 \cos(90)$$

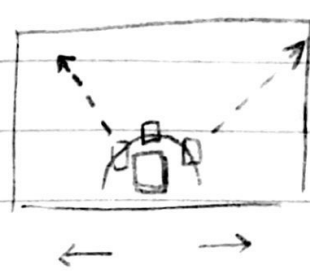
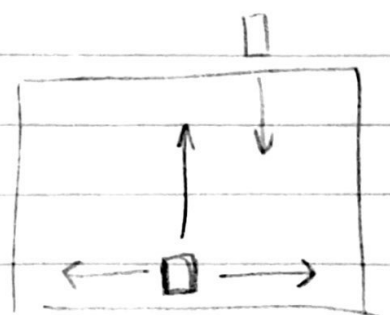
$$= 30(0) = \underline{\underline{0}}$$

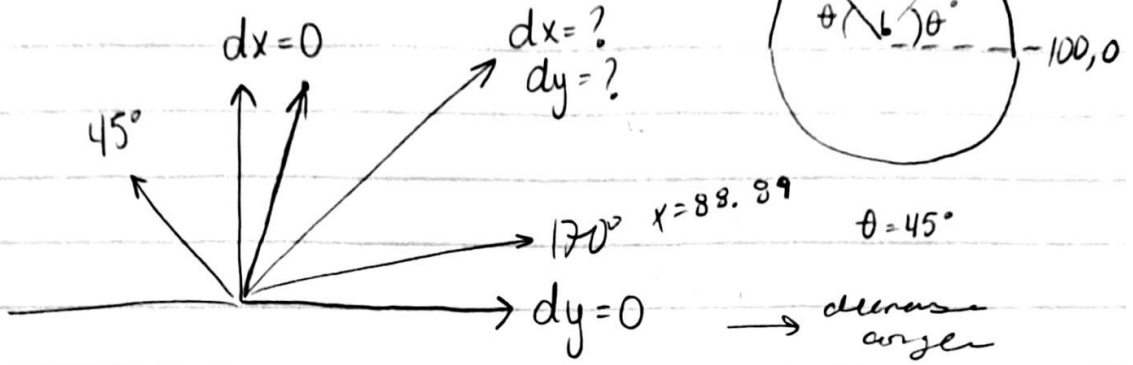
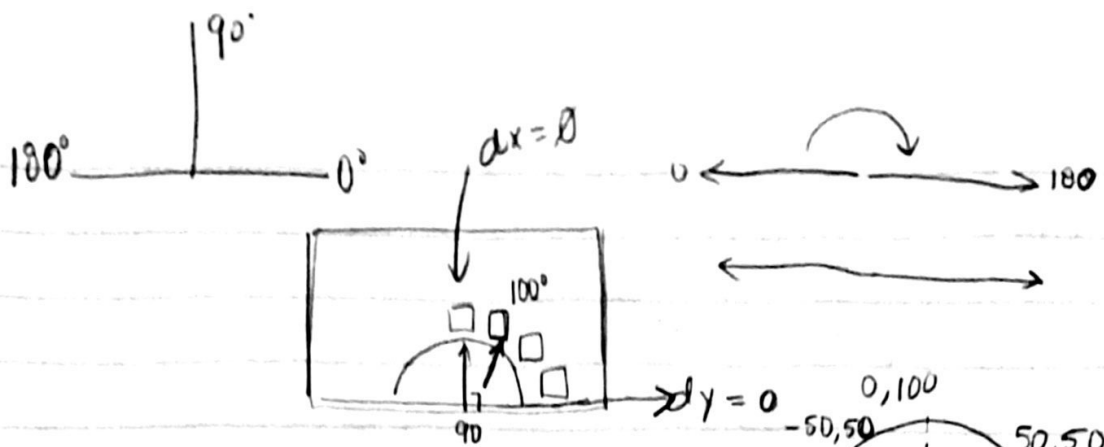
$$y_c = 30 \cos(180 - 135)$$

$$= 30 \cos(45)$$

$$= 30(0.7071)$$

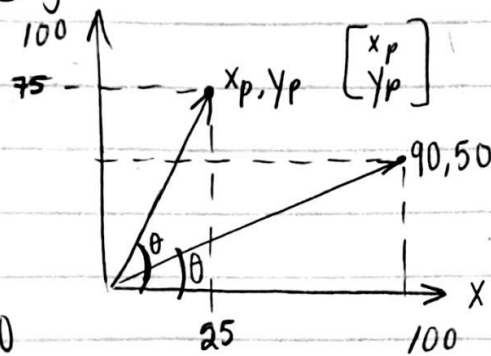
$$y_c = 21.213$$





$$x \begin{bmatrix} 0 \\ 100 \end{bmatrix} y$$

$$x = \frac{90 - 90}{90} \cdot 100 = 0$$



$$\frac{0 - 90}{90} \cdot 100 =$$

$$\left(\frac{\theta - 90}{90} \right) \cdot 100$$



$$\theta = 90^\circ \rightarrow \begin{bmatrix} 0 \\ 100 \end{bmatrix}$$

$$\theta = 180^\circ \rightarrow \begin{bmatrix} 100 \\ 0 \end{bmatrix}$$

$$\theta = 135^\circ \rightarrow \begin{bmatrix} 50 \\ 50 \end{bmatrix}$$

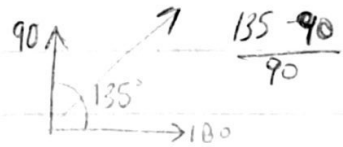
$$180^\circ \boxed{} = 100$$

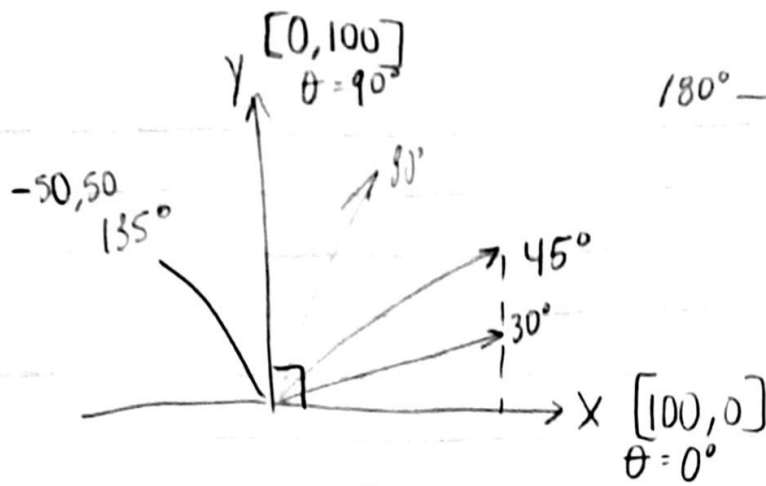
$$\left(\frac{1}{2} \right) \cdot \frac{90}{2} + 90 = 135$$

$$dx = \left(\frac{1}{2} \right) \cdot 100$$

$$dx = \left(\frac{135 - 90}{180 - 90} \right) \cdot 100$$

$$0.5 \cdot 100 = 50$$





180° ← 0°

$$x = 100 * \cos(45)$$

$$y = 100 * \sin(45)$$

$$\theta = 0^\circ \rightarrow \begin{bmatrix} 100 \\ 0 \end{bmatrix}$$

$$x = 100 * 1$$

$$y = 100 * 0$$

$$\theta = 45^\circ \rightarrow \begin{bmatrix} 50 \\ 50 \end{bmatrix}$$

$$x = 100 * \frac{1}{2}$$

$$y = 100 * \frac{1}{2}$$

what %

$$x = \frac{90 - \theta}{90} = 0.5$$

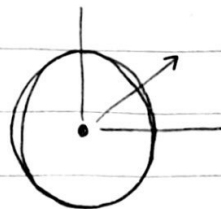
~~80^2~~
~~100^2~~

$$y = \frac{90 + \theta}{90} = 0.5$$

$$\theta = 90^\circ = \begin{bmatrix} 0 \\ 100 \end{bmatrix}$$

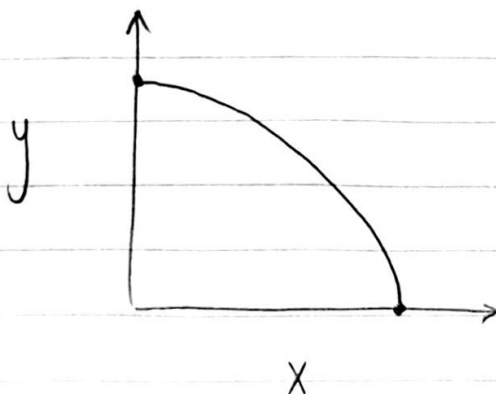
$$x = 100 * 0$$

$$y = 100 * 1$$



$$\frac{90 - 80}{90} = 11.11$$

radius = 100



$$\frac{90 - 135}{90} = -0.5$$

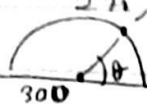
$$\frac{90 - 30}{90} = \frac{60}{90} = 66.66$$

100 -

1 2 3 4 5
 MOCHA
 m o c d a

current index
 is 3

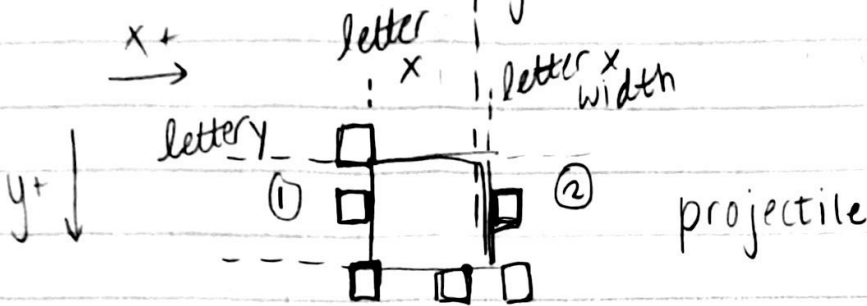
o, index



letter w - 2

$$y_2 - y_1 =$$

$$y = mx + b$$



- ① $\text{proj } x + w > \text{letter } x$ and $\text{proj } x + w < \text{letter } x + w$
 and $\text{proj } y \geq \text{letter } y$ and $\text{proj } y \leq \text{letter } y + h$

OR

- ② $\text{proj } x < \text{letter } x + w$ and $\text{proj } x > \text{letter } x$
 and $\text{proj } y \geq \text{letter } y$ and $\text{proj } y \leq \text{letter } y + h$

